

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A pn-junction compound semiconductor light-emitting device comprising (i) a stacked structure including a light-emitting part composed of aluminum gallium indium phosphide, said light-emitting part comprising a light-emitting layer, a lower clad layer and an upper clad layer, and (ii) a light-permeable substrate for supporting the stacked structure, the stacked structure including a conductive boron containing Group III-V compound semiconductor layer formed on the light-emitting part, ~~and~~ wherein the light permeable substrate is joined to the stacked structure through the boron containing Group III-V compound semiconductor layer, and

wherein the respective layers constituting the light-emitting device are arranged in the order of the light-permeable substrate, the conductive boron containing Group III-V compound semiconductor layer, the upper clad layer, the light-emitting layer and the lower clad layer.

2. (previously presented): The pn-junction compound semiconductor light-emitting device according to claim 1, wherein the conductive layer has a bandgap at room temperature which is greater than that of the light-emitting layer and not exceeding 5.0 eV.

3. (previously presented): The pn-junction compound semiconductor light-emitting device according to claim 1, wherein the conductive layer is composed of an undoped Group III-V compound semiconductor containing boron to which an impurity element has not been intentionally added.

4. (previously presented): The pn-junction compound semiconductor light-emitting device according to claim 1, wherein the conductive layer is composed of a Group III-V compound semiconductor containing arsenic and boron.

5. (previously presented): The pn-junction compound semiconductor light-emitting device according to claim 1, wherein the conductive layer is composed of a Group III-V compound semiconductor containing phosphorus and boron.

6. (previously presented): The pn-junction compound semiconductor light-emitting device according to claim 5, wherein the conductive layer is composed of boron phosphide.

7. (previously presented): The pn-junction compound semiconductor light-emitting device according to claim 1, wherein the conductive layer is composed of a boron-containing Group III-V compound semiconductor containing twins.

8. (previously presented): The pn-junction compound semiconductor light-emitting device according to claim 7, wherein each of the twins has, as a twinning plane, a (111) lattice plane of a boron-containing Group III-V compound semiconductor.

9. (withdrawn-currently amended): A method for producing a pn-junction compound semiconductor light-emitting device comprising (i) a stacked structure including a light-emitting part composed of aluminum gallium indium phosphide, said light-emitting part comprising a light-emitting layer, a lower clad layer and an upper clad layer, and (ii) a light-permeable substrate for supporting the stacked structure, the stacked structure including a conductive boron containing Group III-V compound semiconductor layer formed on the light-emitting part, and wherein the light permeable substrate is joined to the stacked structure through the boron containing Group III-V compound semiconductor layer, and

wherein the respective layers constituting the light-emitting device are arranged in the order of the light-permeable substrate, the conductive boron containing Group III-V compound semiconductor layer, the upper clad layer, the light-emitting layer and the lower clad layer,
said method comprising the steps of:

forming a stacked structure through sequentially stacking on a crystal substrate a lower cladding layer, a light-emitting layer composed of n-type or p-type aluminum gallium indium phosphide, an upper cladding layer, and an n-type or a p-type conductive layer composed of a boron-containing Group III-V compound semiconductor, and a step of joining the conductive layer to a light-permeable substrate.

10. (withdrawn): The method for producing a pn-junction compound semiconductor light-emitting device according to claim 9, wherein the crystal substrate is removed after joining of the conductive layer to the light-permeable substrate.

11. (withdrawn): The method for producing a pn-junction compound semiconductor light-emitting device according to claim 9, wherein the conductive layer is formed through crystal growth at a growth rate of 20 nm/min to 30 nm/min until the conductor layer thickness reaches 10 nm to 25 nm, followed by crystal growth at a growth rate less than 20 nm/min until the conductor layer comes to have a thickness of interest.

12. (previously presented): The pn-junction compound semiconductor light emitting device according to claim 1, wherein the conductive layer has a conduction type which is the same as a conduction type of an upper clad layer of the light emitting layer.

13. (previously presented): The pn-junction compound semiconductor light-emitting device according to claim 1, wherein an ohmic electrode is formed on a surface of the device opposite the light permeable substrate.

14. (canceled).

15. (currently amended): The pn-junction compound semiconductor light-emitting device according to ~~claim 14, claim 1~~, wherein the upper clad layer composed of aluminum gallium indium phosphide is in direct contact with the conductive boron containing Group III-V compound semiconductor layer.